

**Pine Creek/Sulphurbeds Allotment
TWITCHELL CREEK #2 (TWC2)
Riparian Browse Assessment
(1) July 16, 2008
(2) October 10, 2008**

Twitchell Creek #2 is located approximately 400 feet upstream of Twitchell Creek #1. Twitchell Creek is a tributary to Indian Creek, in the southern portion of Pine Creek/Sulphurbeds Cattle Allotment.

The creek bed is incised, and Booth's willows (*Salix boothii*) have re-established in the new, incised floodplain (Figs. 1-2). The creek has not incised recently.

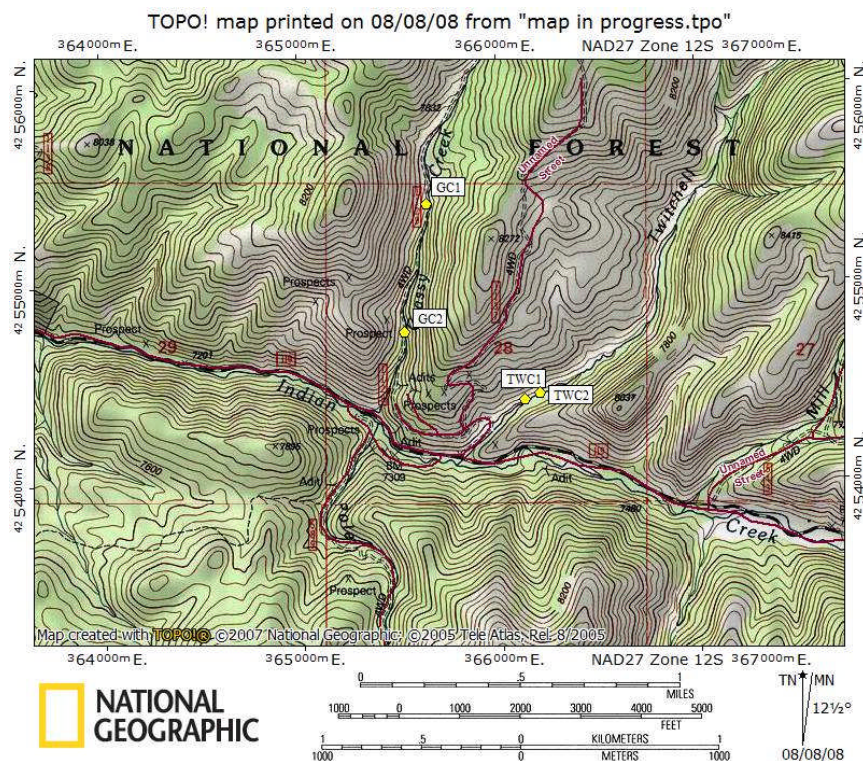
Aspen are present on the slope southeast of the creek but the stand is sparse and senescent (Fig. 3). Conifers are entering the floodplain vegetation while mountain mahogany (Fig. 4), aspen, and willow are being browsed back.

(1: 7/16/08) As of July 16, **29%** of willow leaders and **47%** of subleaders were browsed; and **17%** of aspen leaders and **49%** of subleaders were browsed. Cattle are scheduled to be in the Wildcat Pasture August 16-Sept 30. However, several cattle were present downstream near the end of the road (downstream approximately ¼ mile) on July 16th.

(2: 10/10/08) As of October 10, **72%** of willow leaders and **91%** of willow subleaders were browsed; **36%** of aspen leaders and **91%** aspen subleaders were browsed. Cattle were scheduled to have been removed from the pasture 10 days earlier.

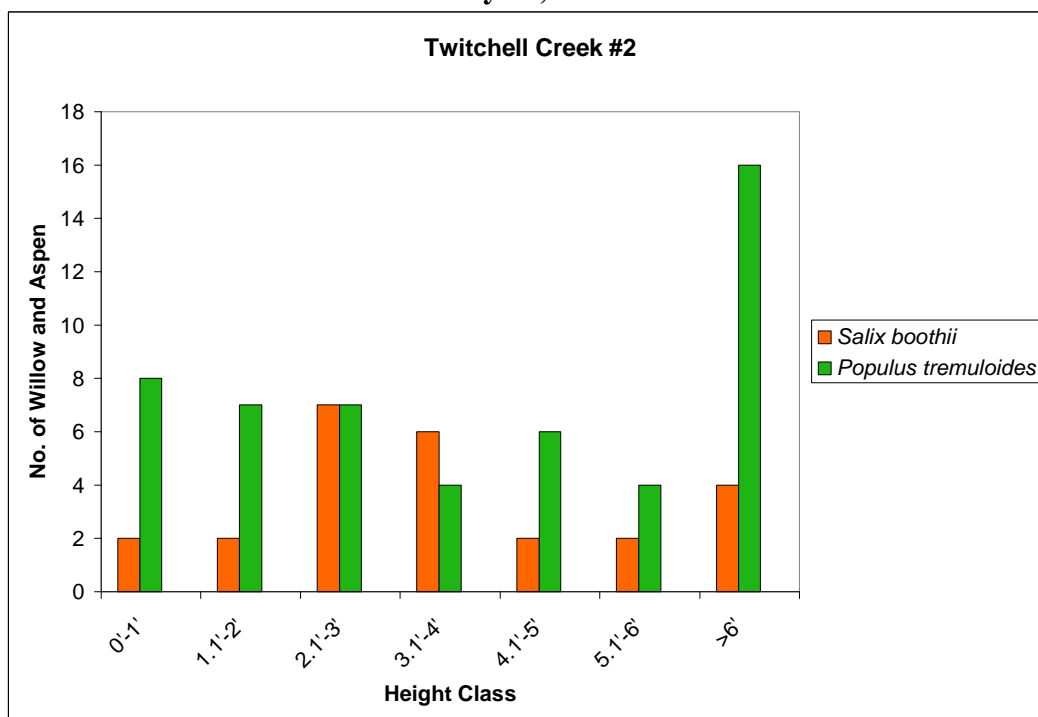
Willows of 2'-4' dominate; and 61% of willows 2'-4' tall (N=13) are "mature", i.e., having >10 stems). Among the 1'-2' willows (N = 7), 43% are mature. The lack of 4.1'-6' height classes is marked (see height class charts p. 3 below).

Similarly, aspen 4.1'-6' are essentially missing height classes, and yet those >6' average 2.5" DBH (July 16) to 4.5" DBH (Oct. 10). The differences in DBH on those two dates occur because of differing interceptions of large cottonwood individuals. The missing height classes of 4.1'-6' are similar on both dates. The "bushiness" (i.e., evidence of repeated browsing) of 2.1'-3' aspen averaging 6-10 leaders within 6" of the tallest leader (see leader charts below, p. 5)

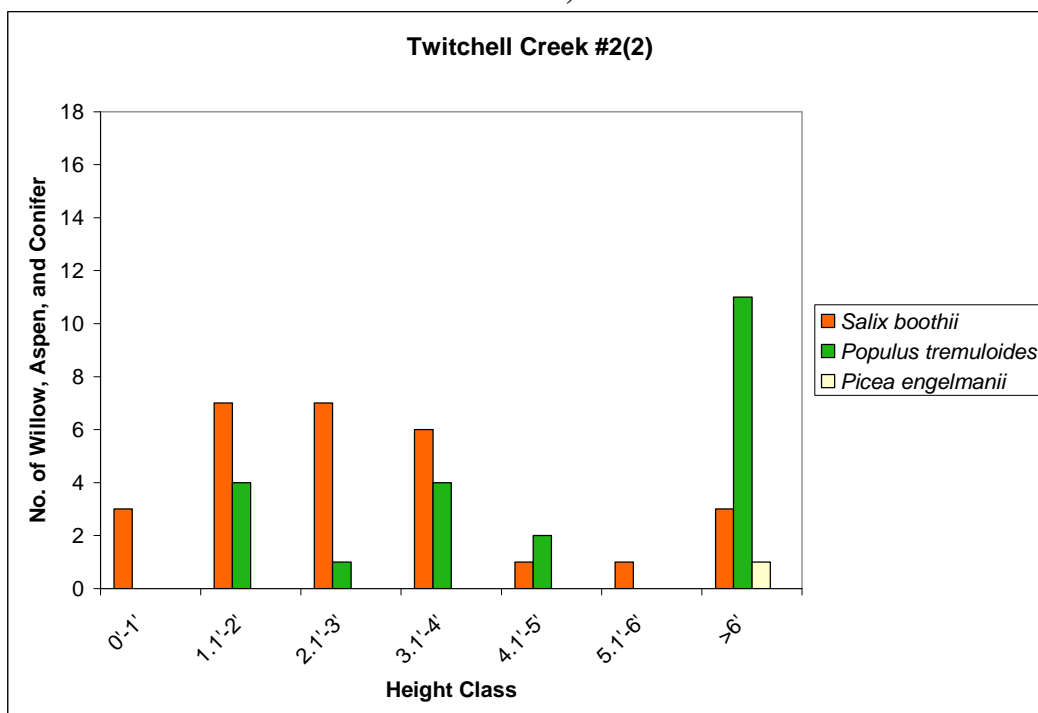


Twitchell Creek #2 (TWC2) Open, incised bed of Twitchell Creek	7/16/2008 Martin/David 10/10/2008 Hoskisson/O'Brien
FLNF/Beaver RD	Allotment: Pine-Creek Sulphurbeds Pasture: Wildcat
Stake: 12N E 0366199 N 4254441 NAD CONUS 27 South end of transect on river right at downstream end of meadow; next to a juniper	Elevation: 7,456'
Aspect: NW	Animal sign: Cattle
Ave. Width Riparian Area: Young willows are present within 8' of the creek and mature willows are only within 7' of the creek.	
Dominant vegetation: Rocky Mountain juniper, common juniper, Engelmann spruce, water birch, currant, Booth's willow (<i>S. boothii</i>), lupine, snowberry, sagebrush, yarrow, dandelion, Kentucky bluegrass (<i>Poa pratensis</i>), Baltic rush (<i>Juncus balticus</i>), dagger-leaf rush (<i>Juncus ensifolius</i>), and clover.	
Other notes: To our knowledge no Level II Riparian Inventory has been conducted on Twitchell Creek.	

July 16, 2008



October 10, 2008



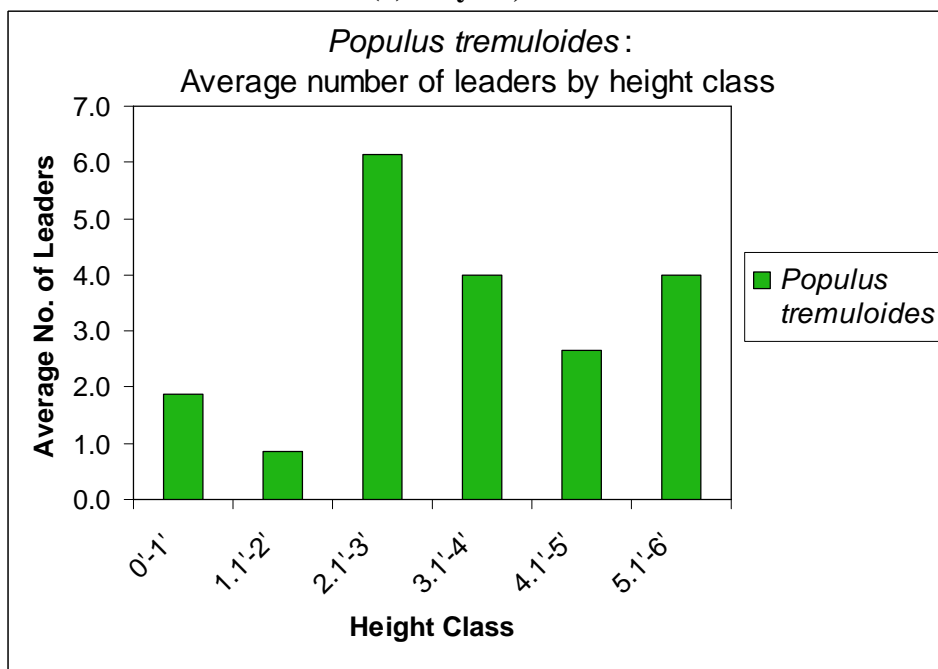
(1) July 16, 20084 *Salix boothii* >6': Ave. width 2.5'16 *Populus tremuloides* >6': Ave. DBH 2.5"

Twitchell Creek #2 21 <i>Salix boothii</i> <6' 36 <i>Populus tremuloides</i> <6'			
	Total willow	<i>Salix boothii</i>	<i>Populus tremuloides</i>
% tall leaders browsed	28.6	28.6	16.7
% tall leaders browsed or dead	28.6	28.6	26.7
% subleaders browsed	46.7	46.7	48.8
% subleaders browsed or dead	46.7	46.7	50.0

(2) October 9, 20083 *Salix boothii* >6': Ave. width 2.5'11 *Populus tremuloides* >6': Ave. DBH 4.1"1 *Picea engelmannii* >6': DBH 14"

Twitchell Creek #2 25 <i>Salix boothii</i> <6' 11 <i>Populus tremuloides</i> <6'		
	<i>Salix boothii</i>	<i>Populus tremuloides</i>
% tall leaders browsed	72.0	36.4
% tall leaders browsed or dead	84.0	36.4
% subleaders browsed	91.0	90.9
% subleaders browsed or dead	91.0	90.9

(1) July 16, 2008



(2) October 10, 2008

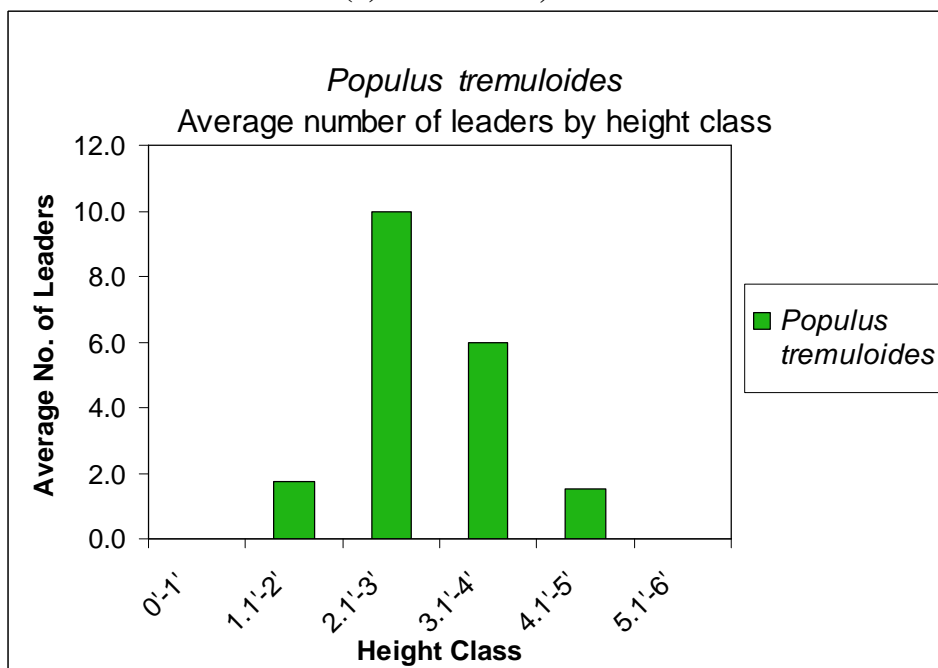




Fig. 1 (7/16/08). Willows establishing in incised creek bed.



Fig. 2 (7/16/08). Young willows and browsing-shortened mature willows.



Fig. 3 (7/16/08). Aspen on the slope SE and above the creek.



Fig. 4 (10/10/08) Mountain mahogany is heavily browsed; this at <4" tall.

Twitchell Creek #2 (TWC2)
Riparian Grass/Grasslike Utilization
October 10, 2008

Allotment: Pine Creek/Sulphurbeds

Pasture: Wildcat

Creek/Stream: Twitchell Creek

2008 Annual Operating Instructions dates of livestock entry/exit: Aug 16-Sept 30

Surveyors: O'Brien and Hoskisson

Twitchell Creek #2 is located approximately 400 feet upstream of Twitchell Creek #1. The creek bed is incised, and Booth's willows (*Salix boothii*) are reestablishing in the new, incised floodplain. Grasses and sedges are sparse and heavily browsed (Fig. 5). This transect was read approximately nine days after cattle were to be moved from the pasture. The Kentucky bluegrass, at 1.2" average height, was browsed beyond the standard of 1.5". Only two sedges were encountered on the transects; they were browsed to 2.2" (standard is 4").

Grass/Grasslike Utilization: 10/10/2008											
Kentucky Bluegrass (<i>Poa pratensis</i>)				Other Grasses				Sedges and/or Rushes			
Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N	Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N	Ave. ht(in) Accessible	N	Ave. ht(in) Inaccessible	N
1.2"	18	5"	1	1.4"	8	4"	1	2.2"	2	NA	0

Methodology note

The average height (inches) of a grass, sedge, or rush plant was measured every 2' from the 0' at the edge of the creek to the road (10'-40') beyond which an upland slope rose (see accompanying cottonwood/aspen/willow riparian assessment). The grass/grasslike species nearest to, but no farther than 3" from, the transect point was recorded. Kentucky bluegrass was recorded separately from other grasses, as a different Fishlake NF utilization standard (1.5") is applied to Kentucky bluegrass as opposed to hydrophytic grass/grasslike species (4")¹.

¹ The four inch stubble height for hydric (i.e., adapted to a wet, but not flooded habitat) plants is part of the allowable forage utilization criteria that were revised through a Fishlake National Forest Plan amendment in 2002. These revised forage utilization criteria prescribe allowable use levels for both upland and riparian sites. As the Fishlake NF explains this: "The description for riparian areas is a uniform 4" stubble height. Reaching the 4" stubble height triggers the time to move livestock, either between units or off the allotment. These criteria allow no manipulation to plan use of expected regrowth—once the 4" stubble height is reached, livestock are moved, without the opportunity for twice-over use. Livestock are moved to the next pasture or removed from the allotment when any utilization threshold (upland forage utilization, stream bank alteration, riparian forage utilization, riparian vegetation stubble height, or riparian woody

The height of grass/grasslike plants accessible to large ungulate grazing was recorded separately from the height of grass/grasslike plants inaccessible to grazing, e.g., inside the base of a large willow, in a channel of water.



Fig. 5 (10/10/08). Grass is sparse and heavily browsed on the creek bank. Tab is 4" tall; red line is at 1.5".

browse utilization) is reached. Meeting or exceeding one of these threshold levels initiates a move of livestock." (USFS 2006)

Fishlake National Forest riparian utilization standards include (USFS 2006):

Riparian hydric species:

4" triggers the time to move livestock between units or off the allotment

Riparian Emphasis Management Areas

6" triggers the time to move livestock between units or off the allotment

Non-hydric Sod-Forming Grass Species in Riparian Areas

1 ½ " Primarily Kentucky bluegrass--Triggers the time to move livestock between units or off the allotment